



## *New Hampshire Wetland Program Plan*

**2011-2017**

The New Hampshire Wetland Program Plan (“the Plan”) provides a framework and direction over the next six years for the New Hampshire Department of Environmental Services (“DES”) and its partners to strengthen and improve the program and in doing so better protect wetlands and aquatic resources statewide. In order to prepare the plan DES brought together various programs both from within and outside the agency that share common interests related to wetlands, most notably NH Department of Fish and Game, and the NH Department of Transportation, to discuss shared goals. This group identified the actions and activities necessary to reach those goals. The Plan should be considered a work in progress that will be revisited and revised as needed.

New Hampshire’s tidal and non-tidal wetlands are of great importance for flood control, water filtration, water storage and recharge for both groundwater and surface waters. These functions become more valuable with the expected increase in occurrence and severity of storm events associated with climate change. Wetlands also support the food chain, providing food and shelter for a variety of aquatic and upland plants and animals. Although New Hampshire has lost fewer wetlands to filling and dredging than many coastal states, landscape change poses a significant challenge to the protection of New Hampshire’s wetlands. Given the important functions and values of wetlands, there have been a number of attempts to place an economic value on wetlands resources. For instance, a 2006 EPA funded study estimated that the economic benefits generated by a single acre of

wetland amount to \$150,000 to \$200,000 (NACO, 2006). The same study found that wetlands increase surrounding real estate values by an estimated 28 percent while enhancing the quality of life. In 2002 a study by the Clean Water Network estimated the economic value of New Hampshire's remaining wetlands to be approximately \$1.2 bill (CWN, 2002)

The primary state law that authorizes the permitting program to protect wetlands is RSA 482-A, the New Hampshire Fill and Dredge in Wetlands Act (the "Wetlands Act"). The state's wetland permitting program is the primary means of wetlands regulation in New Hampshire. For projects with significant wetland impacts, based on either square footage (>10,000 square feet) or the impact on sensitive species, DES requires the applicant to compensate for the unavoidable loss of wetland functions and values that will result from the proposed impact. There are four options an applicant could use to address mitigation: wetland construction in upland areas, wetland restoration that re-establishes impacted wetlands or, protection of wetland and associated uplands through a conservation easement. If applicants can demonstrate to the satisfaction of DES that the other three options are not available then a fourth option is the Aquatic Resource Mitigation Fund (ARM Fund). This fund was established in 2006 and involves payment into one of 16 watershed-based funds.

The DES Wetlands program and applicants often interact with many other land resources permitting programs: including Alteration of Terrain, Subsurface Wastewater Disposal Systems, Groundwater and Drinking Water Supply, and Shoreland Protection. This type of coordinated permitting benefits state and federal partners and the general public.

DES utilizes LEAN techniques to identify and eliminate waste in our various processes. For example, LEAN was used to develop a new streamlined review of land resource applications at the administrative review level. DES is engaged in other LEAN initiatives to develop coordinated and streamlined processes for applicants. This LEAN process was made possible through funding from an EPA grant which is due to expire this year. DES hopes that through EPA and other additional funding sources some of the goals identified in this plan can be achieved.

## Overall Goal Statement and Time Frame

DES has identified the following overall goals or “desired outcomes” related to wetland resources in the state. These outcomes are separated into environmentally based outcomes and programmatic based outcomes and are the two cornerstones that were used to guide the work to be accomplished under the Plan.

### Environmentally- based outcomes:

- Wetland complexes of high ecological function and value, are afforded adequate protection.
- Blocks of unfragmented habitat are protected and/or connected to other habitats, protected land, or stream and wildlife corridors.
- Land development practices avoid and minimize cumulative and indirect impacts to wetland and aquatic resources.
- Natural stream flow regimes are maintained, and stream crossings allow aquatic resources to stay connected.
- Streams and wetlands have adequate protective buffers.

### Programmatic-based outcomes:

- Wetland permit processes will be integrated with other land resources permits.
- Wetland protection efforts will be well funded and wetland resources will be protected and maintained to provide improved ecosystem services (reduce flooding, improve water quality, provide habitat and recreation opportunities) and the economic benefits they provide.
- Development of a broad base of stewardship and public understanding of the multiple benefits of the functions and values of wetlands and aquatic resources.
- Wetland compliance and enforcement efforts are adequately funded, and actions are consistent and responsive.
- Wetland condition is assessed on a regular basis as part of NH Water Quality Monitoring Strategy and 305(b) reporting.
- Environmentally-based outcomes and measures are used for annual status and trends reporting and to influence proposed regulation, policy, and decision making.
- Resource management decisions are based on sound science and balance competing interests.

## Core Elements of the New Hampshire Wetland Program Plan

**DES identified five core program elements for the wetland planning process. These are:**

1. Regulation and Enforcement
2. Restoration and Protection
3. Data/Monitoring and Assessment/Water Quality Standards
4. Sustainable Financing
5. Outreach and Education/ Local Capacity building

These elements were used to focus the discussion and to help set priorities for action. Each element was assessed to identify strengths and weaknesses. A prioritization process was then used to identify the most important elements for initial focus. (However, it is acknowledged that all elements are important with a sustainable source of funding as perhaps the most important of all.) Suggested actions, activities and a preliminary timeline were identified and are listed in the following pages by each element.

## CORE ELEMENT #1: REGULATION and ENFORCEMENT

**Goal:** To avoid and minimize wetland loss, preserve wetland functions, and replace unavoidable or illegal losses with healthy wetlands that are equivalent or greater in size and that function similar to or better than lost wetlands. To develop a process that moves beyond the complaint-driven enforcement process to a proactive landscape level investigation to deter violations.

**Objective:** Continue development of a strong regulatory program by strengthening regulations, policies and guidance documents; developing and operating under consistent application procedures to maintain consistency and coordination; create strategies to conduct strong compliance and enforcement processes that are timely, relevant, and effective.

Action (a): Improve and strengthen enforcement efforts					
Activity	2010-2011	2012	2013	2014	2015
Coordinate and/or consolidate program complaint protocols: <ul style="list-style-type: none"> <li>- Review existing procedures</li> <li>- Review existing database systems</li> </ul>	x	x	x		
Develop a systematic approach on a watershed scale to address Land Resources Management and Water Quality complaints: <ul style="list-style-type: none"> <li>- Pool agency money/resources to field check complaints</li> <li>- Develop a consistent and coordinated system to address complaints</li> </ul>	x	x	x		

Core Element # 1 cont.

Develop a proactive, systematic approach to locate and pursue large, unreported violations on a landscape-level scale	x	x	x	x	
<ul style="list-style-type: none"> <li>- Develop a protocol to evaluate and identify potential violations and land use changes over a period of time</li> <li>- Develop a consistent and coordinated enforcement response to violations identified</li> </ul>					
<b>Action (b): Increase Field Presence (“Watershed Circuit Rider”)</b>					
<b>Activity</b>	<b>2010-2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Develop a strategy to integrate field presence and field enforcement process across multiple programs (Wetlands, AOT, Subsurface, WQS)		x	x	x	
Develop Strategy for Cross training of Watershed staff and interns on Land Resource jurisdiction		x	x	x	
Develop Strategy for Cross training Land Resources staff on Water Quality jurisdiction (Watershed Program currently handles)		x	x	x	x

Core Element # 1 cont.

<b>Action (c): Simplify and Consolidate Permit process</b>					
<b>Activity</b>	<b>2010-2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Identify opportunities to streamline internal processes		x	x		
Identify opportunities to streamline permit procedures and forms	x	x			
Work towards implementation of e-filing		x	x	x	x
Pursue strategic program enhancements such as improving internal and external (public) accessibility to data layers and address indirect impacts		x	x	x	x
Continue to use LEAN techniques to improve wetlands permitting process	x	x	x	x	
<b>Action (d): Implement changes to improve wetland protection</b>					
<b>Activity</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Identify opportunities to strengthen and clarify statute		x	x	x	x
Identify opportunities to strengthen and clarify rules		x	x	x	x
Pursue implementation for integrated permitting for a unified Land development permit	x	x	x	x	x
Expand approaches to define and address indirect and cumulative impacts of landscape change		x	x	x	x



## CORE ELEMENT #2: RESTORATION AND PROTECTION

**Goal:** To prioritize and implement protection and restoration of aquatic resources of high ecological value and function that are connected to other habitats and that are sustainable.

**Objective:** Continue development of a strong ARM Fund Program to maximize efficiency, mitigate impacts to valuable wetlands and aquatic resources, and continue use of funds for ecologically significant and sustainable projects.

Action (a): Develop new and use existing tools and science to inform regulatory decisions					
Activity	2010-2011	2012	2013	2014	2015
Incorporate Wildlife Action Plan (WAP) and other science-based documents into application review		x		x	
Identify priority wetland-wildlife habitats for protection where enhanced buffers would be appropriate		x		x	
Evaluate need for buffer protection associated with water quality, flood control and other functions and values		x	x		x
Evaluate methodologies for modeling vernal pool locations and work with Fish and Game to develop vernal pool prediction model that maximizes accuracy (WAP strategy) into permitting review		x	x	x	x

Core Element # 2 cont.

<b>Action (b): Continue development of ARM Fund Program to maximize efficiency of program and use of funds for ecologically sustainable projects</b>					
<b>Activity</b>	<b>2010-2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Promote high quality protection/restoration projects through criteria development, prioritization, and dissemination of information to towns, land trusts, partners etc		x	x		
Explore feasibility of changing mitigation threshold		x	x		
Develop Strategy for Watershed-based plans that identify protection and restoration priorities for the ARM	x	x		x	x
Continue revisions to application process and ranking criteria to accommodate range of protection and restoration activities	x	x	x		
Continue application announcement and review to improve efficiency for DES and the ARM selection committee	x	x	x		
Develop coordinated approach for aquatic resource protection with other existing programs		x	x	x	x

Core Element # 2 cont.

<b>Action (c): Mitigate impacts to wetlands and aquatic resources</b>					
<b>Activity</b>	<b>2010-2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Develop formal relationship with Fish and Game to protect and mitigate significant regulated wildlife resources and assist with updates and implementation of NH Wildlife Action Plan (WAP)(MOA with funding)		x	x		
Participate in WAP revisions to incorporate climate change, and revisions to agency rules and statutes	x	x	x	x	x
Identify priority wetland-wildlife habitats for protection where enhanced buffers and mitigation would be required (See Regulation Element –overlap)		x	x	x	x
<b>Action (d): Use data to inform regulatory decisions related to mitigation</b>					
<b>Activity</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Continue development of wetland/aquatic mitigation programs (ARM)	x		x	x	
Continue development of ARM Program and change threshold required for mitigation		x			
Incorporate best available science technologies and data collection techniques(including WAP) in regulatory decisionmaking	x	x	x		
<b>Action (e): Build capacity at the local level to enhance protection efforts</b>					
<b>Activity</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Develop a strategy to address buffers through local and state process			x	x	
Identify opportunities for conservation through land trusts, local commissions, and state and regional opportunities			x	x	x

### CORE ELEMENT #3: WETLAND DATA/MONITORING AND ASSESSMENT/WQS

**Goal:** To develop methods for monitoring and assessing wetland functions and condition. Assessment methods will be integrated with narrative and numeric water quality criteria for 305(b)/303(d) reporting.

**Objective:** Ensure that wetlands are treated as waters of the state consistently throughout all state programs

Action (a): Establish regulatory background for wetland monitoring					
Activity	2010-2011	2012	2013	2014	2015
Revise wetland monitoring strategy	x	x			
Develop a strategy to establish and adopt criteria that qualitatively describe the condition or suite of functions that must be achieved to support a designated use [Create cross walk for Designated uses and Wetland function]	x	x	x		
Develop a strategy to establish wetland-specific water quality standards	x	x	x		
Develop a strategy to establish and adopt numeric criteria representing wetland specific values for chemical, physical and biological parameters	x	x	x	x	

Core Element # 3 cont.

<b>Action (b): Develop GIS-based Wetland Catalog system capable of update</b>					
<b>Activity</b>	<b>2010-2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Work with other state agencies (DOT) to fund and develop protocol to update GIS wetlands catalog from new wetland application delineations and/or have applicant submit digital wetland delineations		X	X	X	
Develop strategy to obtain existing town, county and nonprofit delineations	X	X	X	X	
Develop strategy to provide quality assurance for digitized delineations		X	X	X	
<b>Action (c): Provide foundation for a wetland monitoring Level II assessment</b>					
<b>Activity</b>	<b>2010-2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Review USA RAM, existing state specific RAM's and NH Method to develop a protocols for Level II wetlands monitoring		X		X	
Develop and implement a Floristic Quality Assessment Index (FQAI) as a Level II assessment tool and develop Index of Biological Integrity (IBI) to develop numeric criteria for FQAI	X	X	X	X	
Develop a strategy to provide quality assurance for wetland monitoring procedures	X	X	X	X	X
Train DES staff and volunteers (create wetland monitoring volunteer groups) in new procedures and protocols		X	X	X	X
<b>Action (d): Develop metrics and field protocols for wetland restoration and protection</b>					
<b>Activity</b>	<b>2010-2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Strategize on development of restoration professional workgroup			X	X	X
Identify restoration opportunities and methods to monitor and review project data.		X	X	X	X

## CORE ELEMENT #4: SUSTAINABLE FINANCING

**Goal:** Provide stable funding sources to support program long-term and improve quality of service

**Objective:** To make wetland programs and other department initiatives financially stable. Stable financial resources are necessary to achieve goals and objectives in the New Hampshire Wetland Protection Plan.

Action (a): Develop strategy to revamp fee and funding structure with goal of making wetlands program more financially stable.					
Activity	2010-2011	2012	2013	2014	2015
Identify and pursue additional opportunities for program funding	x	x	x	x	x
Review legislative opportunities to account for public service offered at a cost to program – e.g. pre application meetings, appeals, inspections	x	x	x	x	x
Review existing legislative caps for appropriateness – DOT, utilities, etc	x	x	x	x	x
Review other possible fees for other resource use - dock registration, buffers, etc	x	x	x	x	x
Action (b): Identify other water programs with associated wetland impacts					
Activity	2010-2011	2012	2013	2014	2015
Create mitigation program for projects impacting wetland through storm water, 401, or impacts to buffers			x		x
Review other water programs for identification of impacts to wetlands and clean water authority – nonpoint source, dams, water diversions and water quality		x	x	x	x

Core Element # 4 cont.

<b>Action (c): Partner with key stakeholders</b>					
<b>Activity</b>	<b>2010-2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Foster relationships with academic institutions, natural resource scientists, and conservation groups		x		x	x
Work with colleges and universities to promote research in areas that will assist with environmental compliance as well as social and technical research		x		x	x
Work with local groups to address smaller issues, and get them involved in providing feedback to improve permit process			x		x

## CORE ELEMENT #5: OUTREACH AND EDUCATION

### Goal(s):

- Develop a comprehensive, coordinated network of volunteers to assist in outreach and education
- Use volunteers to perform education and outreach to achieve desired environmental compliance and outcomes
- Local decision makers are well-informed and can then make sound environmental decisions.
- Use Education/outreach to educate legislature
- **Objective:** To improve public understanding of wetlands value and understand wetland process

Action (a): Coordinate wetland message into other Water Division outreach					
Activity	2010-2011	2012	2013	2014	2015
Develop wetlands message and outreach tools (fact sheets, presentations, etc.) focused on important functions and values (i.e wildlife, flood protection, and water quality)	x	x	x	x	x
Develop HUC 12 level wetland report cards integrated with other waterbody types			x	x	x
Develop DES Water Division Outreach Steering Committee (with other stakeholders e.g. Fish and Game)	x	x	x	x	x
Action (b): Develop volunteer corps for wetland outreach					
Activity	2010-2011	2012	2013	2014	2015
Develop training materials for volunteer corps		x	x	x	x
Train existing volunteer groups to integrate wetland steward message (VLAP, VRAP)		x	x	x	x
Identify DES staff to provide technical assistance to volunteer corps	x	x	x		



Core Element # 5 cont.

<b>Action (c): Enhance and integrate outreach, education and technical assistance to municipal officials, conservation commissions and watershed organizations (and land use planning commissions)</b>					
<b>Activity</b>	<b>2010-2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Strategize on creating Master Outreach calendar (with DES Outreach Committee)	x	x	x		
Strategize on creating on-line training in wetland outreach and assessment tools		x	x	x	x
Pursue partnerships for education/outreach:					
- Pursue training through educators to teach other trainers					
- Pursue training with SWS, Conser.Commissions to help to education/outreach – hold partners accountable with agreements		x	x	x	x
Coordinate with DOT Storm Water Outreach Team	x	x	x		
Coordinate with Public Affairs Division of Fish and Game – provide tools to get message out, Discover NH Day, Project WET, Teach the teacher, and other available forums	x	x	x	x	x
Review the Shoreland Stakeholder group as model to develop education/outreach plan	x	x	x		
<b>Action (d): Influence and inform local decision making</b>					
<b>Activity</b>	<b>2010-2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Expand approaches to define and address indirect and cumulative impacts of landscape change			x	x	x
Distribute information to municipalities related to wetland outreach efforts, assessment tools, and reporting on the ecological integrity of wetlands			x	x	x